

WE CLAIM:

1. A method of providing high availability for a network, the method comprising:

5 configuring a first supervisor in a first chassis of a virtual network device as an active supervisor; and

configuring a second supervisor in a second chassis of the virtual network device as a standby supervisor for the virtual network device.

10 2. The method of claim 1, wherein the active supervisor and the standby supervisor are further configured to perform load balancing of traffic for the virtual network device.

15 3. The method of claim 1, further comprising configuring a third supervisor in the first chassis as a first pseudo-standby supervisor kept in at least a warm state.

4. The method of claim 1, further comprising keeping the second supervisor in a hot standby state.

20 5. The method of claim 3, wherein a stateful switchover is performed in response to a failure of the first supervisor and the method further comprises:

configuring the second supervisor as a new active supervisor; and

25 configuring the third supervisor as a new standby supervisor.

6. The method of claim 3, further comprising configuring the third supervisor as a new standby supervisor in response to a failure of the second supervisor.

7. The method of claim 3, further comprising configuring a fourth supervisor of the second chassis as a second pseudo-standby supervisor kept in at least a warm state.

5 8. The method of claim 6, wherein the first chassis and the second chassis continue forwarding traffic during the stateful switchover.

9. The method of claim 6, further comprising:

re-booting the first supervisor; and

10 configuring the first supervisor as a new pseudo-standby supervisor kept in at least a warm state.

10. The method of claim 7, further comprising configuring the fourth supervisor as a new standby supervisor in response to a failure of the second
15 supervisor.

11. A virtual network device configured for high availability, the virtual network device comprising:

a first chassis comprising a first supervisor configured as an active supervisor; and

20 a second chassis comprising a second supervisor configured as a standby supervisor.

12. The virtual network device of claim 11, wherein the first supervisor and the second supervisor are further configured to perform load balancing of traffic for the
25 virtual network device.

13. The virtual network device of claim 11, wherein the first chassis further comprises a third supervisor configured as a first pseudo-standby supervisor that is

kept in at least a warm standby state by the first supervisor.

14. The virtual network device of claim 11, wherein the second chassis further comprises a fourth supervisor
5 configured as a second pseudo-standby supervisor that is kept in at least a warm standby state by the second supervisor.

15. The virtual network device of claim 13, wherein the second supervisor is further configured to act as a new
10 active supervisor in response to a failure by the first supervisor.

16. The virtual network device of claim 13, wherein the third supervisor is further configured to act as a new
15 standby supervisor in response to a failure by the first supervisor.

17. The virtual network device of claim 14, wherein the fourth supervisor is further configured to act as a new
standby supervisor in response to a failure by the second supervisor.

18. A computer program embodied in a machine-readable
20 medium, the computer program comprising instructions for controlling a virtual network device to perform the following steps:

25 configuring a first supervisor in a first chassis of the virtual network device as an active supervisor; and

configuring a second supervisor in a second chassis of the virtual network device as a standby supervisor for the active supervisor.

19. The computer program of claim 18, further comprising
30 instructions for causing the active supervisor and the

standby supervisor to perform load balancing of traffic for the virtual network device.

20. The computer program of claim 18, further comprising instructions for configuring a third supervisor in the first chassis as a first pseudo-standby supervisor kept in at least a warm state by the first supervisor.

21. The computer program of claim 18, further comprising instructions for keeping the second supervisor in a hot standby state.

22. The computer program of claim 20, further comprising instructions for performing a stateful switchover in response to a failure of the first supervisor by controlling the virtual network device to perform the following steps:

configuring the second supervisor as a new active supervisor; and

configuring the third supervisor as a new standby supervisor.

23. The computer program of claim 20, further comprising instructions for configuring the third supervisor as a new standby supervisor in response to a failure of the second supervisor.

24. The computer program of claim 20, further comprising instructions for configuring a fourth supervisor of the second chassis as a second pseudo-standby supervisor kept in at least a warm state.

25. The computer program of claim 22, further comprising instructions for causing the first chassis and the second chassis to continue forwarding traffic during the stateful switchover.

26. The computer program of claim 22, further comprising instructions for causing the virtual network device to perform the following steps:

re-booting the first supervisor; and

5 configuring the first supervisor as a new pseudo-standby supervisor kept in at least a warm state by the third supervisor.

27. The computer program of claim 24, further comprising instructions for configuring the fourth supervisor as a
10 new standby supervisor in response to a failure of the second supervisor.

28. An apparatus for providing high availability for a network, the apparatus comprising:

15 means for configuring a first supervisor in a first chassis of a virtual network device as an active supervisor; and

 means for configuring a second supervisor in a second chassis of the virtual network device as a standby supervisor for the active supervisor.

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